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Indicators for routine monitoring of effective mental health care coverage in low and middle income settings: A Delphi study

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Key messages:

- This study provides new and relevant information to policy-makers and other decision-makers regarding key indicators to consider and use for capturing efforts to move towards universal health coverage for mental disorders. This is particularly salient given the call for action on scaling up mental health care globally.
- The strong consensus reached in this study for the identified key indicators provides a solid platform for their consideration and inclusion within national health information systems, which in turn can improve monitoring and reporting of mental health system performance at the global level.

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Abstract

High-quality information to measure the need for, and the uptake, cost, quality and impact of care is essential in the pursuit of scaling up mental health care in low and middle-income countries (LMIC). The aim of this study was to identify indicators for the measurement of effective coverage of mental health treatment. We conducted a two-round Delphi study (n=93 experts from primarily LMIC countries Ethiopia, India, Nepal, Nigeria, South Africa and Uganda), in order to generate and prioritize a set of indicators. First, 52 unique indicators were generated (based on a total of 876 responses from participants). Second, the selected indicators were then scored for significance, relevance and feasibility. Mean priority scores were calculated per indicator (score range 1-5). All 52 indicators had a weighted mean score that ranged from 3.20 for the lowest ranked to 4.27 for the highest ranked. The 15 highest ranked indicators cover the different domains of measuring effective mental health treatment coverage. This set of

indicators is highly stable between the different groups of experts, as well as between the different participating countries. This study provides data on how mental health service and financial coverage can be assessed in LMIC. This is an important element in the move to scale-up mental health care.

Background

In low and middle-income countries (LMIC) the treatment gap for people with mental health problems, defined as the difference between the number of people needing care and those receiving such care, is especially pronounced (Demyttenaere et al., 2004). Global initiatives to scale up mental health services are under way, aimed at tackling this treatment gap (WHO, 2008). These efforts require an adequate information system, which includes mental health metrics to estimate changes in treatment coverage and to monitor quality of care (De Silva et al., 2014). The Mental Health Action Plan of the World Health Organization (WHO) includes a target for 80% of countries to be routinely collecting a core set of mental health indicators through national health and social information systems by 2020 (WHO, 2013), progress towards this target is being assessed through a periodic global mental health survey. The present research study set out to complement such efforts by identifying indicators that can be used within routine health information systems to measure different aspects of the concept of effective coverage. The concept of effective coverage – which brings together the need for, uptake of and quality of care – is currently not well measured yet, along with financial coverage or protection, represents a critical component of broader international efforts in the health sector to move and track progress

towards universal health coverage for a range of diseases and conditions including severe mental disorders. Better information assists coherent planning, informed decision-making, accountability and ensuring quality of care (WHO, 2005). Conversely, the lack of available and pertinent data has been demonstrated to hinder the process of improvement of mental health care (Kielstra, 3014).

In LMIC, routine health care monitoring systems (for example through Health Information Management Systems [HMIS]) do not yet include mental health metrics, or these are included only to a minimal extent (Upadhaya et al., In preparation; Jenkins et al., 2011; Eaton et al., 2011; Ndetei and Jenkins, 2009). When included, the indicators are generally limited to mental health out-patient department attendance rate or psychiatric in-patient or psychiatric in-patient bed occupancy rate. With increasing attention being paid to the integration of mental health into primary health care, there is a need to formulate a set of indicators to assess the adequacy of implementation and scale-up. At the same time, the scope for adding new indicators to existing HMIS is limited due to resource constraints and the limited mental health care infrastructure in many countries (Hanlon et al., 2014). The need to collect high-quality, informative data without overburdening clinicians and other healthcare staff is therefore imperative (Ryan, 2013).

The program ‘Emerging mental health systems in low and middle income countries (Emerald)’, which this study was a part of, aims to improve mental health outcomes in six LMIC settings (Ethiopia, India, Nepal, Nigeria, South Africa and Uganda) by generating evidence and capacity to enhance health system performance, including the development, use and monitoring of indicators for mental health service coverage and system performance (Semrau et al., 2015).

Indicators for scaling up services for mental disorders have already been proposed, yet these are mainly health system-level indicators such as the availability of a mental health policy or the level of government spending on mental health services (Lancet Mental Health Group, 2007). There is also a need for a common framework for indicators at the service-provision level (Ndetei and Jenkins, 2009). Within Emerald, an expert opinion survey using the Delphi methodology was therefore conducted with the aim of generating a consensus-based decision on the selection of indicators for the measurement of effective coverage of mental health treatments.

Methods

The Delphi method has been widely used to help promote agreement amongst a group of experts, whose responses to a questionnaire are aggregated and then anonymously fed back to all participants in order to elicit potential revisions of earlier responses in the light of inputs from the larger group (de Meyrick, 2003; Mullen, 2003). A Delphi study was chosen because it is well suited to questions related to health policy. The two-staged Delphi exercise involved the following steps.

Determining the scope

A four-member steering committee consisting of Emerald investigators (MJ, OG, MS, DC) determined the scope of the study. First, it was determined that indicators should be appropriate for use on a routine basis in LMICs to assess different aspects of effective service coverage and also financial coverage (which between them capture the concept of universal health coverage). Coverage has been conceptualized as consisting of different embedded levels that include availability coverage (i.e. people for whom the service is available), accessibility coverage (i.e.

people who can use services), acceptability coverage (i.e. people who are willing to use services), contact coverage (i.e. people who use services) and ultimately effective coverage (Tanahashi, 1978). Effective coverage was defined as the proportion of people in need of a service who gain the intended health benefit from that service (De Silva et al., 2014); financial coverage was defined in terms of levels of financial protection (such as national health insurance) for those using the services. Second, we identified experts from academic, policy and planning (i.e. health information systems), clinical backgrounds and representatives of service user groups. The list of experts was based on (a) first authors from relevant articles generated through a literature review, (b) the Emerald program investigator team, and (c) a country-specific list of experts generated by each participating site based on in-country track record in mental health policy development (i.e. as government staff, service users, service providers, researcher). A group of 180 experts were invited to participate (see Figure 1).

* Figure 1 here

Generating candidate indicators

The first round of the study resulted in the generation of indicators to measure effective coverage in LMICs. Participants completed a survey, asking them to generate indicators following the four categories of effective coverage (see Text Box 1).

Text Box 1. Key definitions

For Round 1:

Need of service. The proportion of people in a population with a mental health problem.

Utilization of services. The proportion of people that receive treatment.

Quality of care. The treatment has the intended benefits in terms of effectiveness, safety and responsiveness.

Financial protection. Extent to which individuals or households are protected from financial hardship when using services.

For Round 2:

Significance. It is important to include this indicator in routine data collection of mental health care in low-resource settings. In other words, do you think it is essential for countries that have not done so yet to include this indicator in the next 5-10 years?

Relevance. Including this indicator in routine data collection will influence mental health policy and practice in low-resource settings. In other words, do you think information from this indicator will result in policy or practice results in the next 5-10 years?

Feasibility. It is feasible to routinely measure this indicator in low-resource settings. In other words, do you think it is possible for countries that do not do so yet to start measuring this indicator within the next 5-10 years?

In addition they were asked to provide feedback regarding the measurement of the suggested indicators, the need for separate indicators for children, and the relevance of developing a set of indicators for use across LMIC. All responses from round 1 were reviewed and consolidated into a categorized list of selected indicators to be used for round 2. The categorization was done by listing all non-duplicate indicators and grouping those with the same or similar meaning and choosing the most frequently used phrasing as the indicator being carried forward (i.e. many of the indicators had the same meaning but phrasing was different). This initial grouping was then reviewed by the members of the steering group , based on which further changes and grouping was applied to come to the final set of indicators.

* Text Box 1 here

Prioritizing among generated indicators

In the second round participants were administered a survey and asked to score each of the selected indicators (n=52) using three criteria; significance, relevance and feasibility (see box 1) on a 5-point Likert scale (1 = strongly disagree; 2 = disagree; 3 = neutral [neither agree nor disagree]; 4 = agree; 5 = strongly agree), with a 'no answer [insufficiently informed to answer]' option. Participants were further invited to provide feedback on each of the generated items. Finally, participants were asked to weigh the relative importance of each of the three criteria by dividing 100 points between the options, and the same weighting was done for the four domains. Mean priority scores for each of the three indicators, as well as an overall priority score, were calculated per indicator (score range 1-5). Mean scores were re-calculated with individual responses adjusted for the average criteria weight. All 'no answer' responses were left out of the calculation in both numerator and denominator. For both rounds questionnaires were e-mailed to experts and when e-mail was not possible a hard copy questionnaire was shared and the responses were later entered electronically. Mean priority scores between groups of experts were compared by doing Analysis of Variance (ANOVA). Analyses were performed in SPSS 20.0 (SPSS, 2010). See Supplementary data S1 for the instructions for both rounds of surveys.

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The funder had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Findings

Indicators to measure effective coverage were generated by 93 people. Participants were mostly men (73%), representing a range of relevant professions (52% mental health professionals, 10% researchers, 25% government officials, 4% service users), with an average of 15.2 years of work experience. A total of 93 respondents out of the 180 invited to participate, completed this round (response rate of 52%). The majority of participants resided in LMIC (84%) and 97% reported working predominantly in LMIC.

Altogether, 876 possible indicators were generated, which were consolidated into a list of 52 indicators after omitting duplicates and categorization of remaining responses. This list included nine indicators around need for services, 13 for utilization, 23 for quality and seven for financial protection. In the second round 105 people (93 experts who participated in round 1, four members of the steering committee and eight experts unable to make the round 1 deadline but who had indicated willingness to participate in round 2) were invited to participate. The survey was completed by 93 people (89% response rate). There were no significant differences with regards to gender, profession and country of work between round 1 and round 2 participants (Chi square comparisons, p values 0.92 0.50 0.96, respectively).

The fifteen most highly ranked indicators are listed in Table 1. All 52 indicators had a weighted mean score that ranged from 3.20 for the lowest ranked (number of people with mental disorders who receive information about mental health treatment) to 4.27 for the highest ranked (with the top three highest rated indicators having nearly identical mean scores; see Table 1) (higher scores indicating higher level of agreement). Adjusting for the average weight given per criteria did not

have much influence on the overall mean scores or position within the highest ranked indicators. We have limited the presentation to 15 indicators for reasons of succinctness of reporting; see Supplementary data S1 for an overview of all 52 indicators included in the study. Moreover, as the large number of potential indicators is a major challenge for HMIS in low resource settings, it is important to collect only essential minimum data in order to improve efficiency and maximize clinical time for direct patient care.

* Table 1 here

The indicators included in the list of 15 highest ranked indicators were highly stable between the different groups of experts, as well as between the different participating countries. Exclusion of any one group only had a small influence on the position in the ranking, and had no influence on which indicators were included among the highest ranked ones. The ten highest rated indicators were especially consistent between groups, which were the only 10 items that had an average score >4.0. Between-group analyses (ANOVA) showed that only one indicator of the top 15 (#13; number of people with financial protection or insurance) had significantly different mean scores between the different groups (six countries, global and Emerald investigators) ($F=2.579(7)$; $p=0.016$).

The mean scores on the feasibility criteria were lower for all items compared to the other criteria. Low perceived feasibility influenced the position in the ranking for some of the indicators that were seen as important (i.e. high scores in significance and relevance), for example suicide rates (#6 in list) and measuring clinical outcomes post treatment (#14 in list). See Supplementary data

S2 for a breakdown of average scores per criterion. The highest rated indicators include indicators from each of the four domains, consistent with the similar average weights for each of the domains as assigned by the respondents (29.4% needs, 27.2% utilization, 24.6% quality, 20.2% financial coverage). Compared to this weighting, the quality of care indicators are over-represented (7/15), which may be explained by the higher number of quality of care indicators in the list of 52 items included in the second round of the study (see Supplementary data S2).

During both rounds of the Delphi study the participants were asked to provide feedback on the indicators and process. A large majority (79%) were of the opinion that there is a need for separate indicators for child and adolescent mental health. With regards to the relevance of developing a set of cross-country indicators, 87% reported to be moderately or very much in favor of this, while 13% were only a little in favor or not at all. At the same time, a considerable number of challenges were raised, especially in relation to the methods of collection for the proposed indicators. Some of the frequently mentioned barriers were related to scarcity of human resources (n=58), lack of political will or low priority given to mental health information (n=37), cost involved (n=28), lack of tools and infrastructure for collection, documentation and reporting (n=28), complexity of indicators (n=22), lack of a system of management and utilization of data in decision-making (n=11) and inadequate quality assurance mechanisms (n=11).

Discussion

Within the broader context of moving towards universal health coverage for mental disorders, monitoring and evaluation of mental health programs needs to incorporate the routine collection of measures of effective and financial coverage. This is needed to inform quality improvement

and scale-up of services (De Silva et al., 2014). This Delphi study, with an expert panel consisting of mental health researchers, clinicians, service users and policy makers almost all working and residing in LMIC, has generated and ranked a set of indicators for routine measurement of mental health service coverage and system performance. First, there was broad support for the identification of a minimum set of indicators towards improving monitoring of mental health care in LMIC, as well as for the content of these indicators.

Currently, only a minority of LMIC collect routine data on mental health from primary care (WHO, 2011), and the lack of such data has been found to be among the greatest limitations of some existing community mental health programs (Cohen et al., 2011). There is notable overlap between the selected indicators in this study with those that have been proposed in other publications suggesting integrated indicators for monitoring mental health services (Patel et al., 2009; Lund and Flisher, 2003). Some of the listed indicators will need to be broken down into sub-categories for actual use (e.g. different disorders for items #1 and 7; or different types of treatment for items #5 and 9), a process that is currently ongoing within each of the participating countries.

Second, the findings show that the set of most highly prioritized indicators cover the different domains of coverage, i.e. accessibility coverage, acceptability coverage, contact coverage and finally effective coverage. Acceptability coverage is covered by the item asking for number of patients and caregivers expressing satisfaction with received services. While the first round of the Delphi study did ask participants to generate indicators according to these four domains, the prioritization according to pre-defined criteria could have led to one or more of the domains not

being included. This can be seen as a sign of support for going beyond the measurement of contact coverage (i.e. service utilization divided by the population in need of services). To date, only very few mental health programs in LMIC have been able to do this, according to a recent review (De Silva et al., 2014). Also, this approach is compatible with the conceptualization of Universal Health Coverage, which stipulates that services should be utilized without suffering financial hardship when paying for them (World Health Organization, 2001). The combined selected indicators covered the measurement of various aspects of the mental health system, including health care delivery and management indicators (5/15), and individual health status indicators (10/15).

Third, the indicators with the highest level of agreement among the panel of experts were highly stable between different groups of participants, based on country or profession. The ranking of the indicators also did not vary significantly after adjusting for the weighting of the three criteria. This stability speaks to the reliability of the findings, especially for Delphi studies that involve measuring or ranking the level of consensus among a group of experts (de Meyrick, 2003).

Fourth, a number of potential challenges have been voiced, mostly concerned with the feasibility of integrating new indicators for mental health care within existing surveillance systems. Potential barriers include scarcity of resources and poor commitment or infrastructure. Such barriers do not reflect the content of the indicators but rather are a reflection of the health system at large, especially in regard to efforts to integrate mental health services, in general, into primary health care. Some other frequently mentioned barriers, such as lack of a valid set of

indicators, are exactly the reason for conducting this study, and in fact the Emerald program (Semrau et al., 2015).

Limitations

A few study limitations need to be pointed out. First, we had a response rate of 52% between invited experts and the first round of generating indicators. This is largely explained by the low representation from the group of experts (3/34) from high-income settings that had been identified through the literature review prior to this study. While this may entail a loss of expertise with health information systems, it has resulted in a group of participants that is almost exclusively working in LMIC, who arguably better understands the actual needs and possibilities within the health systems of these countries. The high response rate between the first and second rounds (89%) is a strength of the study. Second, to actually reach consensus on the indicators, further rounds of questionnaires, and feeding back the groups' intermediate positions, would be needed. The type of Delphi study that we employed aims to identify the widest possible range of valid solutions to a health policy problem (de Meyrick, 2003). The weakness of this approach is that it cannot provide in-depth discussion on any of the proposed responses. For that reason the results of this study will be further discussed within each of the Emerald countries, and as such it provides a precursor for in-country refinement and consensus building. Next steps will involve studying the process of integrating new indicators within district level health information systems in the six program countries, and evaluating their use and outcomes (Semrau et al., 2015). Finally, the dominance of male participants (73% in round 2) in the sample is important to note, as this may have introduced bias. The study was introduced with the perspective of identifying indicators for measuring mental health treatment coverage. As a result, indicators for

prevention activities are not adequately represented in this study. This should be addressed in a separate study.

Conclusion

In order to evaluate the scaling up of mental health care in LMIC, there is an urgent need to have an adequate information system. Good quality data on a number of key indicators can support the process of making decisions and improvements related to mental health care. Currently mental health indicators are under-represented or not present in most routine information systems. To respond to this information gap, the formulation of a set of indicators that are recommended by a group of experts can serve as an important first step. This study has resulted in a highly stable list of most frequently endorsed indicators that cover different domains of measuring mental health care coverage, including needs, utilization, quality and financial protection. Further research is needed to demonstrate the feasibility and performance of these indicators in real-life practice, especially given the constraints of scarce resources for (mental) health care systems.

Text Box 1: Key definitions

Figure 1: Study flowchart

Table 1: Fifteen most highly scored indicators in round 2 of the Delphi study

Table 1: Fifteen most highly scored indicators in round 2 of the Delphi study

Rank	Indicator	Domain	Score (non-weighted mean)	Score (weighted mean*)
1	Number of people diagnosed with severe mental disorders (all health system)[#]	Needs	4.27	4.26[a]
2	Number of days in last one month that psychotropic medicines were out of stock	Quality	4.27	4.26[a]
3	Proportion of national health budget allocated to mental health services	Financial protection	4.27	4.25
4	Number of trained mental health workers at inpatient and outpatient service	Quality	4.23	4.22
5	Number of people with severe mental disorder who received mental health treatment[#]	Utilization	4.18	4.16
6	Rate of suicide deaths and attempts	Needs	4.17	4.14
7	Number of people diagnosed with any mental disorder (all health system)[#]	Needs	4.12	4.10
8	Number of people receiving mental health care who are lost to follow-up (drop-out rate)	Quality	4.08	4.05
9	Number of people with any mental disorder who received mental health treatment (among diagnosed people)[#]	Utilization	4.06	4.03
10	Number of patients re-admitted to in-patient mental health care	Quality	4.04	4.01
11	Number of persons taking psychotropic drugs	Utilization	3.96	3.96
12	Number of patients and caregivers expressing satisfaction with received services	Quality	3.95	3.93
13	Number of people with mental disorders who have some kind of financial protection or insurance against the cost of mental health care treatment	Financial protection	3.94	3.92
14	Number of beneficiaries who are better, worse or unchanged post-treatment compared to pre-treatment, or at standard intervals after starting treatment	Quality	3.92	3.89[a]
15	Number of serious complications or incidents associated with treatment	Quality	3.91	3.89[a]

Note: * All scores have been adjusted for the relative weighting, as a result of the experts prioritization among the used criteria; [a] These two indicators reverse order on the ranking when compared to the ranking based on non-weighed mean scores; [#] Items that will need to be broken down in sub-categories before use.

Supplementary data S1: List of all 52 indicators included in the study.

Supplementary data S1: List of all 52 indicators included in the study (instructions for round 1 and 2 surveys added).

Round 1	INSTRUCTION: Summary We are asking your expert opinion in a Delphi study in order to develop a set of indicators that adequately measures improvement in mental health service coverage and that are applicable and feasible to be integrated in routine monitoring, such as national Health Information Management Systems (HMIS) in low and middle income countries. A Delphi study is a method that builds group consensus and is used to distill the input from experts on a specific topic. Background This study is part of a larger program called EMERALD. The overall aim of EMERALD is to identify key health system barriers to, and solutions for, the scaled-up delivery of mental health services in low- and middle-income countries, and by doing so improve mental health outcomes in a fair and efficient way. The three objectives of EMERALD are: (1) Adequate, fair and sustainable resourcing: To identify health system resources, financing mechanisms and information needed to scale-up (i.e. expand) mental health services and move towards universal coverage. (2) Integrated service provision: To evaluate the context, process, experience and health system implications of mental health service implementation. (3) Improved coverage and goal attainment: To develop, use and monitor indicators of mental health service coverage and system performance. See http://www.emerald-project.eu/home/ for more detailed information of the program. Indicators for measuring service coverage and goal attainment A part of the EMERALD program aims to identify, develop and test the utility of indicators that help to monitor the coverage of mental health services. The subsequent integration of such indicators into routine use (notably HMIS) should provide objective evaluation of improved coverage and rate of goal attainment in mental health care. We aim to do this in three steps. First, we want to generate a list of possible indicators for effective coverage, and subsequently to reduce and finalize the list of potential indicators through consensus expert opinion (the subject of this Delphi study). Second, we will field test the selected indicators in each of the EMERALD countries. Third, and towards the final phase of the program, we will evaluate the use of these indicators. Delphi study procedure We plan to conduct a Delphi study in order to achieve the aim of making a research-informed decision about what indicators to include. The Delphi method is a structured technique, which is designed as a group communication process which aims to achieve a convergence of opinion on a specific real-world issue and relies on a panel of experts who provide their opinion on the given dilemma through answering questionnaires in two or more rounds. See ANNEX 1 for some more information. In this study we would like to request your help in three parts: Round 1 (current): generation of a list of possible indicators to be considered to measure effective coverage to be integrated in routine monitoring (i.e. HMIS) – this should take about 15 minutes. A preliminary list of indicators that has been developed from an EMERALD situation analyses in 6 countries as a starting point will serve as an example for this step. We ask you to list indicators that you think, based on your experience, should be collected on a routine bases (i.e. HMIS), to measure effective coverage of mental health services. The basic definition of treatment coverage is the proportion of people with a mental health disorder (true prevalence) that receive treatment (treatment prevalence). In addition it is important to better understand the extent, outcomes and quality of care received; we call this effective coverage. Effective coverage is defined here as: The probability that individuals will receive health gain from

	an intervention if they need it, with some form of financial protection in place for using the services. Effective coverage therefore links the concepts of (a) need for services, (b) utilization of services, (c) quality of care received, and (d) financial coverage.
Round 2	INSTRUCTION: Please check (☒) your response Complete the questions on the next pages by scoring all indicators for the level of agreement with each of the 3 criteria. 1. Significance 2. Relevance 3. Feasibility Scoring options range from 1 to 5 (see below). There may be cases where you do not feel informed enough to answer a question. In all such cases, you should choose the option 'no answer'. [1] = Strongly disagree [2] = Disagree [3] = Neutral (neither agree nor disagree) [4] = Agree [5] = Strongly agree [No answer] = Insufficiently informed to answer Note: All indicators will ultimately be applied for a defined period (e.g. in the past 12 months) and for a defined population (e.g. per 100,000 people). For reasons of brevity, these have been omitted in the current list, to be included in subsequent steps. Note: Pay attention to the fact that some of the indicators are very similar on first view, but in fact represent different indicators. Please, read carefully. Explanation of the criteria to be used for scoring: 1. Significance: It is important to include this indicator in routine data collection of mental health care in low-resource settings. ☐ In other words, do you think it is essential for countries that have not done so yet to include this indicator in the next 5-10 years? 2. Relevance: Including this indicator in routine data collection will influence mental policy and practice in low-resource settings. ☐ In other words, do you think information from this indicator will result in policy or practice results in the next 5-10 years? 3. Feasibility: It is feasible to routinely measure this indicator in low-resource settings. ☐ In other words, do you think it is possible for countries that do not do so yet to start measuring this indicator within the next 5-10 years?
1	**NEED INDICATORS**
1.1	Number of people who score above a validated cut-off score for any mental disorder on self-report checklist (based on national health survey)
1.2	Number of all people diagnosed with any mental disorder
1.3	Number of people diagnosed with severe mental disorders
1.4	Number of all people diagnosed with any mental disorder among general health care attendees
1.5	Number of new cases diagnosed with any mental disorder (incidence)
1.6	Rate of impairment in daily functioning associated with mental health problems
1.7	Family burden associated with mental health problems
1.8	Rate of suicide deaths and attempts

1.9	Number of people with any mental disorder who never received treatment
2	**UTILIZATION INDICATORS**
2.1	Number of people with any mental disorder who received mental health treatment (among diagnosed people)
2.2	Number of people who received mental health treatment (based on national health survey)
2.3	Number of people with any mental disorder who have visited a health facility to seek mental health care, at least once in the past 12 months (based on health facility survey)
2.4	Number of people with any mental disorder with moderate to severe dysfunction who received mental health treatment
2.5	Number of people with severe mental disorder who received mental health treatment
2.6	Number of people with any mental disorder who have access to evidence-based mental health services
2.7	Number of people who receive mental health services among those receiving any kind of health care
2.8	Number of people using services who attempted suicide
2.9	Number of persons taking psychotropic drugs
2.10	Number of people detected by community workers who came to a health care facility for treatment
2.11	Number of people with any mental disorder who received mental health treatment by specialist
2.12	Number of people registered in substance abuse treatment programs
2.13	Average duration between onset of illness to first treatment contact.
3	**QUALITY INDICATORS**
3.1	Number of beneficiaries who are better, worse or unchanged post-treatment compared to pre-treatment, or at standard intervals after starting treatment
3.2	Number of persons using mental health services who report feeling safe
3.3	Number of persons served who experienced treatment as non-coercive
3.4	Number of persons served who report they were treated with politeness, respect and dignity by staff
3.5	Average time between first and subsequent sessions
3.6	Number of trained mental health workers at inpatient and outpatient service
3.7	Number of days in last one month that psychotropic medicines were out of stock
3.8	Number of patients and caregivers expressing satisfaction with received services
3.9	Rate of satisfaction with management of side-effects of psychotropic medication
3.10	Number of people receiving mental health care who are lost to follow-up (drop-out rate)
3.11	Number of service providers receiving recurrent (e.g. weekly) supervision and ongoing learning opportunities
3.12	Number of people with selected mental disorders who received (predefined) evidence-based treatment
3.13	Average duration of consultations for people with mental disorders
3.14	Number of serious complications or incidents associated with treatment
3.15	Number of patients re-admitted to in-patient mental health care
3.16	Number of people receiving care who receive (pre-defined) minimally adequate care
3.17	Number of routine quality checks of patient files for appropriate treatment of diagnosed cases
3.18	Average number of days in past month clients reported daily activities were limited due to poor mental health
3.19	Rate of perceived stigma and discrimination among service users and caregivers
3.20	Number of facilities that address issues of confidentiality
3.21	Number of inpatient and rehabilitation facilities reviewed by independent human rights agency
3.22	Number of people with mental disorders who receive information about mental health treatment
3.23	Number of people with any mental disorder receiving care that is adherent to treatment protocols
4	**FINANCIAL COVERAGE INDICATORS**
4.1	Out of pocket expenditures for services as a proportion of household income or spending
4.2	Number of households with catastrophic health expenditures who received in- and/or outpatient care
4.3	Proportion of national health budget allocated to mental health services
4.4	Number of people with mental disorders who have some kind of financial protection or insurance against the cost of mental health care treatment

4.5	Number of people with a severe mental disorder who receive disability payments or income support
4.6	Number of service users reporting that ability to pay is (not) a barrier to receiving treatment
4.7	Number of service users not engaged in any economic activities/ employment

Supplement 2: Most highly scored indicators, mean scores per criteria

Rank	Indicator	Score (weighed mean*) Significance	Score (weighed mean*) Relevance	Score (weighed mean*) Feasibility
1	Number of people diagnosed with severe mental disorders (all health system)	4.45	4.38	3.99
2	Number of days in last one month that psychotropic medicines were out of stock	4.41	4.37	4.05
3	Proportion of national health budget allocated to mental health services	4.46	4.37	4.03
4	Number of trained mental health workers at inpatient and outpatient service	4.31	4.28	4.10
5	Number of people with severe mental disorder who received mental health treatment	4.37	4.29	3.84
6	Rate of suicide deaths and attempts	4.53	4.45	3.49
7	Number of people diagnosed with any mental disorder (all health system)	4.35	4.38	3.65
8	Number of people receiving mental health care who are lost to follow-up (drop-out rate)	4.38	4.19	3.59
9	Number of people with any mental disorder who received mental health treatment (among diagnosed people)	4.40	4.31	3.49
10	Number of patients re-admitted to in-patient mental health care	4.17	3.98	3.88
11	Number of persons taking psychotropic drugs	4.01	3.98	3.93
12	Number of patients and caregivers expressing satisfaction with received services	4.22	4.07	3.54
13	Number of people with mental disorders who have some kind of financial protection or insurance against the cost of mental health care treatment	4.17	4.17	3.53
14	Number of beneficiaries who are better, worse or unchanged post-treatment compared to pre-treatment, or at standard intervals after starting treatment	4.35	4.27	3.13
15	Number of serious complications or incidents associated with treatment	4.23	4.03	3.47

Note: * All scores have been adjusted for the relative weighing, as a result of the experts prioritization among the used criteria.

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